REMARKS

Claims 1–24 and 51–79 are pending. Claim 58 is amended to clarify the antecedent basis of "multipotent stem and progenitor cells of the mouse." As amended, "the mouse" refers to the transgenic mouse, not the mouse that provides a fertilized egg. No new matter is introduced by this amendment.

Rejection Under 35 U.S.C. § 112, 2nd ¶

Claims 58-65 stand rejected as being indefinite. The Examiner points out that the term "multipotent stem and progenitor cells of the mouse" lacks proper antecedent basis. The amendment made to base claim 58 obviates this rejection.

Rejection Under 35. U.S.C. § 102(b)

Claims 1-17, 19-24, 51-71, 78, and 79 stand rejected as being anticipated by Zimmerman as evidenced by Hogan. The Examiner contends that Zimmerman's beta-galactosidase is a "fluorescent protein" because it contains tryptophan residues and is hence fluorescent, or because it can be detected with a fluorescent-labeled antibody.

Applicants traverse. Beta-galactosidase is a marker protein on account of its enzymatic activity to convert substrates into colorimetrically detectabe substances. Even if beta-galactosidase emits fluorescence, the fluorescence is not strong enough for the protein to be useful as a marker fluorescent protein. Applicants are not aware of any art relating to using beta-galactosidase as a marker protein by measuring the fluorescence it emits. By the Examiner's logic, any protein would be a marker fluorescent protein because it either emits some weak fluorescence, or at the very least could be detected by a fluorescent-labeled

antibody. But this is simply not true. "Marker fluorescent proteins" means a special group of proteins to a skilled person in the art.

Rejection Under 35 U.S.C. § 103

Claims 1-24, 51-71, 78, and 79 remain rejected as being obvious over Zimmerman in view of Chiochetti. Claims 72-77 remain rejected as being obvious over Zimmerman in view of Chiochetti, Yeh, Lois, and Reynolds.

In their previous responses, applicants argue that the claimed invention is distinguishable over the cited art because it unexpectedly allows real time, whole body imaging of a mammal. The Examiner is not persuaded. The outstanding issue is whether applicants have provided evidence that "GFP would be expressed at any unexpectedly greater level than was beta galactosidase" (Office Action, p. 9, last full sentence).

Applicants traverse. The level of GFP expression vis-a-vis the level of Zimmerman's beta-galactosidase expression is not relevant here. What is relevant is that the cited art does not suggest that GFP's expression is strong enough, regardless of its relative level to Zimmerman's beta-galactosidase, to allow real-time whole-body imaging. That is, even if a skilled person in the art would have expected GFP's expression to be expressed at a comparable level as beta-galactosidase, he/she would not have expected that that level of expression would allow real-time, whole body imaging of a live mammal. Until applicants' invention, this kind of imaging was heretofore not performed or thought to be possible.

CONCLUSION

In light of the foregoing amendments and remarks, applicants request that the Examiner withdraw all outstanding rejections and grant allowance of the pending claims. The Examiner is invited to telephone the undersigned to resolve any remaining issues in this application.

Respectfully submitted,

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